

## CLAIMS

What is claimed is:

- 1 1. A wireless mobile phone comprising:  
2 a body casing having a front surface;  
3 a transceiver send and receive signals including alphanumeric data;  
4 a vibrator coupled to said body casing to vibrate said wireless mobile  
5 phone; and  
6 means coupled to said vibrator and said transceiver for vibrationally  
7 outputting received alphanumeric data through vibrational manifestation of the  
8 received alphanumeric data using the vibrator.
- 1 2. The wireless mobile phone of claim 1, wherein said means for vibrationally  
2 outputting received alphanumeric data comprises means for outputting Morse  
3 code representations of the received alphanumeric data.
- 1 3. The wireless mobile phone of claim 1, wherein said vibrator is disposed  
2 within said body casing.
- 1 4. The wireless mobile phone of claim 1, wherein said means for vibrationally  
2 outputting received alphanumeric data comprises means for vibrationally  
3 outputting alphanumeric data received via said transceiver.

1 5. The wireless mobile phone of claim 1, further comprising an input keypad  
2 disposed on said front surface of said body casing to facilitate entry of  
3 alphanumeric data, and wherein said means for vibrationally outputting received  
4 alphanumeric data comprise means for vibrationally outputting alphanumeric  
5 data received via said input keypad.

1 6. A wireless mobile phone comprising:  
2 a body casing;  
3 a transceiver to send and receive signals including alphanumeric data;  
4 a vibrator coupled to said body casing to vibrate said wireless mobile  
5 phone;  
6 a storage medium having stored therein a plurality of programming  
7 instructions, which when executed cause the wireless mobile phone to  
8 vibrationally output received alphanumeric data through vibrational manifestation  
9 of the received alphanumeric data using the vibrator; and  
10 an execution unit coupled to the storage medium for executing the  
11 plurality of programming instructions.

1 7. The wireless mobile phone of claim 6, further comprising a switch coupled  
2 to said vibrator for switching between a first vibrational operating mode wherein  
3 said wireless mobile phone vibrationally outputs received alphanumeric data,  
4 and a second non-vibrational mode wherein said wireless mobile phone visually  
5 outputs received alphanumeric data.

1 8. The wireless mobile phone of claim 6, wherein said plurality of  
2 programming instructions comprises programming instructions, which when  
3 executed cause the wireless mobile phone to vibrationally output Morse code  
4 representations of the received alphanumeric data.

1 9. In a wireless mobile phone, a method comprising:  
2 receiving signals representing alphanumeric data;  
3 determining if the mobile phone is operating in a vibrational output mode;  
4 and  
5 identifying vibrational representations of at least a portion of the  
6 alphanumeric data and outputting the vibrational representations if the mobile  
7 phone is operating in a vibrational output mode.

1 10. The method of claim 9, further comprising visually outputting the  
2 alphanumeric data if the mobile phone is operating in a non-vibrational output  
3 mode.

1 11. The method of claim 9, further comprising:  
2 vibrationally outputting Morse code representations of said alphanumeric  
3 data if the mobile phone is operating in the vibrational output mode.

1 12. A wireless pager comprising:

2 a receiver to receive signals;  
3 a body casing;  
4 a vibrator coupled to said body casing to vibrate said wireless pager; and  
5 means coupled to said vibrator and said receiver for vibrationally  
6 outputting alphanumeric data received via said receiver through vibrational  
7 manifestation of the received alphanumeric data using the vibrator.

1 13. The wireless pager of claim 12, further comprising a transmitter to transmit  
2 signals.

1 14. The wireless pager of claim 12, further comprising means coupled to said  
2 vibrator for switching between a first vibrational operating mode wherein said  
3 wireless pager vibrationally outputs received alphanumeric data, and a second  
4 non-vibrational mode wherein said wireless pager visually outputs received  
5 alphanumeric data.

1 15. The wireless pager of claim 12, wherein said means for vibrationally  
2 outputting alphanumeric data comprises means for vibrationally outputting  
3 alphanumeric data through vibrational manifestation of the Morse code  
4 representations of the alphanumeric data.

1 16. The wireless pager of claim 12, wherein said vibrator is disposed within  
2 said body casing.

1 17. A wireless pager comprising:  
 2 a receiver to receive signals;  
 3 a body casing;  
 4 a vibrator coupled to said body casing to vibrate said wireless pager;  
 5 a storage medium having stored therein a plurality of programming  
 6 instructions, which when executed cause the wireless pager to vibrationally  
 7 output received alphanumeric data through vibrational manifestation of the  
 8 received alphanumeric data using the vibrator; and  
 9 an execution unit coupled to the storage medium for executing the  
 10 plurality of programming instructions.

1 18. The wireless pager of claim 17, further comprising a switch coupled to  
 2 said vibrator for switching between a first vibrational operating mode wherein  
 3 said wireless pager vibrationally outputs received alphanumeric data, and a  
 4 second non-vibrational mode wherein said wireless pager visually outputs  
 5 received alphanumeric data.

1 19. The wireless pager of claim 17, wherein said plurality of programming  
 2 instructions comprises programming instructions, which when executed cause  
 3 the wireless pager to vibrationally output Morse code representations of the  
 4 received alphanumeric data.

1 20. In a wireless pager, a method comprising:

2 receiving signals representing alphanumeric data;  
3 determining if the wireless pager is operating in a vibrational output mode;  
4 and  
5 identifying vibrational representations of at least a portion of the  
6 alphanumeric data and outputting the vibrational representations if the wireless  
7 pager is operating in a vibrational output mode.

1 21. The method of claim 20, further comprising visually outputting the  
2 alphanumeric data if the wireless pager is operating in a non-vibrational output  
3 mode.

1 22. The method of claim 20, further comprising:  
2 vibrationally outputting Morse code representations of said alphanumeric  
3 data if the wireless pager is operating in the vibrational output mode.

1 23. A PDA comprising:  
2 a receiver to receive signals;  
3 a body casing having front surface;  
4 a vibrator coupled to said body casing to vibrate said PDA; and  
5 means coupled to said vibrator and to said receiver for vibrationally  
6 outputting alphanumeric data received via said receiver through vibrational  
7 manifestation of the received alphanumeric data using the vibrator.

1 24. The PDA of claim 23, wherein said means for vibrationally outputting  
2 alphanumeric data comprises means for vibrationally outputting alphanumeric  
3 data through vibrational manifestation of the Morse code representations of the  
4 alphanumeric data.

1 25. The PDA of claim 23, wherein said vibrator is disposed within said body  
2 casing.

1 26. The PDA of claim 23, further comprising an input keypad disposed on said  
2 front surface of said body casing to facilitate entry of alphanumeric data, and  
3 wherein said means for vibrationally outputting received alphanumeric data  
4 comprise means for vibrationally outputting alphanumeric data received via said  
5 input keypad.

1  
1 27. A PDA comprising:  
2 a receiver to receive signals;  
3 a body casing having front surface;  
4 a vibrator coupled to said body casing to vibrate said PDA;  
5 a storage medium having stored therein a plurality of programming  
6 instructions, which when executed cause the PDA to vibrationally output  
7 received alphanumeric data through vibrational manifestation of the received  
8 alphanumeric data using the vibrator; and

9 an execution unit coupled to the storage medium for executing the  
10 plurality of programming instructions.

1 28. The PDA of claim 27, further comprising a switch coupled to said vibrator  
2 for switching between a first vibrational operating mode wherein said PDA  
3 vibrationally outputs received alphanumeric data, and a second non-vibrational  
4 mode wherein said PDA visually outputs received alphanumeric data.

1 29. The PDA of claim 27, wherein said plurality of programming instructions  
2 comprises programming instructions, which when executed cause the PDA to  
3 vibrationally output Morse code representations of the received alphanumeric  
4 data.

1 30. In a PDA, a method comprising:  
2 receiving signals representing alphanumeric data;  
3 determining if the mobile phone is operating in a vibrational output mode;  
4 and  
5 identifying vibrational representations of at least a portion of the  
6 alphanumeric data and outputting the vibrational representations if the PDA is  
7 operating in a vibrational output mode.

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1 31. The method of claim 30, further comprising visually outputting the  
2 alphanumeric data if the PDA is operating in a non-vibrational output mode.





3 frequencies so as to generate Morse code based vibrational representations of  
4 the received alphanumeric data.

1 36. The wireless communication device of claim 33, wherein the vibrator causes  
2 wireless communication device to vibrate for multiple distinct durations wherein  
3 each vibrational duration is user-distinguishable.

1 37. The wireless communication device of claim 36, wherein the vibrator  
2 causes the wireless communication device to vibrate at any two of the multiple  
3 distinct durations so as to generate Morse code based vibrational  
4 representations of the received alphanumeric data.

1 38. In a wireless communication device, a method comprising:  
2 receiving signals representing alphanumeric data;  
3 determining if the wireless communication device is operating in a  
4 vibrational output mode; and  
5 identifying vibrational representations of at least a portion of the  
6 alphanumeric data and outputting the vibrational representations if the wireless  
7 communication device is operating in a vibrational output mode.